

The listing of claims presented below replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Cancel)
2. (Currently amended) The ~~★~~ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ via connections are provided in the printed circuit board (2) for the electronic contacting of the electrodes through the base body (3) of the printed circuit board (2).
3. (Currently amended) The ~~★~~ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ a feed through (6) to the base electrode (4) is provided in the printed circuit board (2) directly below the base electrode (4).
4. (Currently amended) The ~~★~~ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ the smoothed conductor layer (5), over surface areas having the dimensions of $20 \times 20 \mu\text{m}^2$ (micro-roughness), exhibits a maximum mean surface roughness ~~of 10 nm and, preferably, 3 nm~~.
5. (Previously Presented) A thin-film assembly according to claim 1, characterized in that a contact layer (22) is also provided below the top electrode (9).

6. (Currently amended) ~~The A~~ thin-film assembly according to claim 52 ~~±~~, wherein characterized ~~in that~~ the contact layer (18; 22) also constitutes a passivation layer for the electrode.
7. (Currently amended) ~~The A~~ thin-film assembly according to claim 52 ~~±~~, wherein characterized ~~in that~~ the contact layer (18; 22) also constitutes a stabilization layer for the adherence between the electrode and the adjacent thin-film layer.
8. (Currently amended) ~~The A~~ thin-film assembly according to claim 52 ~~±~~, wherein characterized ~~in that~~ the contact layer (18; 22) is a metallic layer ~~made, e.g., of aluminum, gold, palladium platinum or a metal alloy, or carbon, or a semi-conductive compound.~~
9. (Currently amended) ~~The A~~ thin-film assembly according to claim 52 ~~±~~, wherein ~~characterized in that~~ the contact layer (18; 22) is formed by a conductive suspension or solution; ~~e.g., based on polyaniline, polyethylene dioxithiophene/polystyrenesulfonic acid.~~
10. (Currently amended) ~~The A~~ thin-film assembly according to claim 52 ~~±~~, wherein ~~characterized in a~~ thin-film passivation layer (20) is applied on exposed base body zones uncovered from the conductor layer (5), said passivation layer preventing the contamination of the respective thin-film component by substances emerging from the base body (3).
11. (Currently amended) ~~The A~~ thin-film assembly according to claim 10, wherein ~~characterized in that~~ the passivation layer (20) is made of silicon dioxide, a sol-gel system or an

epoxy compound.

12. (Currently amended) The ~~★~~ thin-film assembly according to claim 52 ~~†~~, wherein characterized ~~in that~~ the top electrode (9) and, optionally, also the contact layer (22) provided therebelow are designed to be at least translucent ~~and, preferably, transparent~~.

13. (Currently amended) The ~~★~~ thin-film assembly according to claim 12, wherein characterized ~~in that~~ an electroluminescent device is provided as said thin-film component (24).

14. (Currently amended) The ~~★~~ thin-film assembly according to claim 13, wherein characterized ~~in that~~ local base electrodes (4) having individual feed throughs (6) are provided on the printed circuit board (2) within an insulating grid structure, with a planar electroluminescent thin-film system as well as a planar, or strip-wisely or symbol-wisely patterned, top electrode (9) being arranged thereabove.

15. (Currently amended) The ~~★~~ thin-film assembly according to claim 12, wherein characterized ~~in that~~ a light-emitting diode is provided as said thin-film component.

16. (Currently amended) The ~~★~~ thin-film assembly according to claim 12, wherein characterized ~~in that~~ a photovoltaic assembly is provided as said thin-film component.

17. (Currently amended) The ~~★~~ thin-film assembly according to claim 52 ~~†~~, wherein

~~characterized in that~~ a sensor, in particular an optical sensor or a temperature sensor, is provided as said thin-film component.

18. (Currently amended) ~~The~~ ★ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ a diode (30) is provided as said thin-film component.

19. (Currently amended) ~~The~~ ★ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ a transistor, in particular a field-effect transistor (40), is provided as said thin-film component.

20. (Currently amended) ~~The~~ ★ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ a snubber is provided as said thin-film component.

21. (Currently amended) ~~The~~ ★ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ a resistor and/or a capacitor is provided as said thin-film component.

22. (Currently amended) ~~The~~ ★ thin-film assembly according to claim 52 ~~†~~, wherein ~~characterized in that~~ an encapsulation (10) is associated with said thin-film component.

23. (Currently amended) ~~The~~ ★ thin-film assembly according to claim 22, wherein ~~characterized in that~~ said encapsulation (10) is designed to be translucent or transparent.

24. (Currently amended) ~~The~~ A thin-film assembly according to claim 22, wherein characterized ~~in that~~ an enclosed gas volume (11) is present within said encapsulation (10).

25. (Currently amended) ~~The~~ A thin-film assembly according to claim 23, wherein characterized ~~in that~~ said encapsulation carries color converting and/or index matching layers (12) in alignment with the local base electrodes.

26. (Currently amended) ~~The~~ A thin-film assembly according to claim 52 ~~+~~, wherein characterized ~~in that~~ the printed circuit board (2) is a flexible printed circuit board known per se.

27. (Currently amended) ~~The~~ A thin-film assembly according to claim 26, wherein characterized ~~in that~~ the thin-film component has a flexible structure.

28. (Currently amended) ~~The~~ A thin-film assembly according to claim 26, wherein characterized ~~in that~~ an encapsulation (10) is associated with said thin-film component, characterized ~~in that~~ wherein said encapsulation (10) is flexible ~~consisting, e.g. of a thin glass laminate or a polymer-oxide composite layer system.~~

29. (Currently amended) ~~The~~ A thin-film assembly according to claim 28, wherein characterized ~~in that~~ said encapsulation (10) is attached to the thin-film component (8) via an adhesion-promoting layer (44).

30. (Currently amended) ~~The~~ A thin-film assembly according to claim 28, wherein characterized ~~in that~~ said encapsulation (10), via a passivation layer (45) serving as a barrier layer against moisture and air, is provided above the thin-film component (8), optionally above the adhesion-promoting layer (44).

31. (Currently amended) ~~The~~ A thin-film assembly according to claim 28, wherein characterized ~~in that~~ the thin-film component (8) is provided in the neutral plane (48) between the flexible printed circuit board (2) and the flexible encapsulation (10).

32. (Currently amended) ~~The~~ A thin-film assembly according to claim 26, wherein characterized ~~in that~~ the flexible printed circuit board (2) is transparent or translucent.

33. (Currently amended) ~~The~~ A thin-film assembly according to claim 26, wherein characterized by a configuration as a roll-up or folding sheeting material (61).

34. (Withdrawn) A method for producing a thin-film assembly including at least one electronic thin-film component which is applied on a substrate by thin-film technology, characterized in that a printed circuit board with an insulation-material base body and a metal coating as the conductor layer is used, that the conductor layer is at least locally smoothed, optionally upon attachment of a reinforcement, in order to form at least one base electrode for the thin-film component, and that a contact layer is applied on the base electrode by thin-film technology prior to attaching the remaining thin-film component thereabove.

35. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is smoothed by a mechanical method such as, e.g., lapping, grinding or polishing.
36. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is smoothed by electrochemical polishing.
37. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is smoothed by chemicommechanical polishing.
38. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is smoothed by chemical etching using, for instance, sulfuric acid, nitric acid or chromosulfuric acid.
39. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is smoothed by ion etching.
40. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is smoothed by bombardment with particles of individual or several atoms or molecules, such as, e.g., argon or argon clusters.
41. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is smoothed over surface areas having the dimensions of $20 \times 20 \mu\text{m}^2$ to a maximum mean surface roughness of 10 nm and, preferably, 3 nm.

42. (Withdrawn) A method according to claim 34, characterized in that the conductor layer is electrochemically reinforced.

43. (Withdrawn) A method according to claim 34, characterized in that the printed circuit board is temporarily passivated by photolithography in the remaining areas prior to locally reinforcing the conductor layer.

44. (Withdrawn) A method according to claim 34, characterized in that base body areas uncovered from the conductor layer are passivated by photolithographically assisted thin-film technology prior to attaching the remaining thin-film component.

45. (Withdrawn) A method according to claim 43, characterized in that a passivation layer is applied by thermal evaporation.

46. (Withdrawn) A method according to claim 43, characterized in that a passivation layer is applied by cold cathode coating.

47. (Withdrawn) A method according to claim 34, characterized in that a flexible printed circuit board is used as said substrate.

48. (Withdrawn) A method according to claim 47, characterized in that the flexible printed circuit board is temporarily supported, at least during smoothing, by a stiffened layer and/or by

being guided over a table.

49. (Withdrawn) A method according to claim 47, characterized in that a flexible printed circuit board sheeting unwound from a reel is used.

50. (Withdrawn) A method according to claim 47, characterized in that a prefabricated flexible encapsulation sheeting is applied above the flexible printed circuit board sheeting provided with the thin-film component.

51. (Withdrawn) A method according to claim 50, characterized in that the encapsulation sheeting is unwound from a reel.

52. (New) A thin-film assembly comprising a substrate, said substrate being comprised of a printed circuit board including an insulation-material base body and a metal lamination as a conductor layer and including at least one electronic component applied on the substrate, wherein a base electrode formed by the conductor layer is provided on the substrate, on which base electrode layers belonging to the component and including an upper cover-electrode are arranged, wherein the component is applied by thin-film technology, and the conductor layer is smoothed at least on the location of the thin-film component, wherein the smoothed conductor layer over surface areas having the dimensions of $20 \times 20 \mu\text{m}^2$ (micro-roughness), exhibits a maximum mean surface roughness of 10nm and a contact layer is applied by thin-film technology between the smoothed, optionally reinforced, conductor layer and the superimposed thin-film layers of the thin-film

component, which contact layer is physically or chemically adsorbed on the surface of the base electrode.

53. (New) The thin-film assembly according to claim 8 wherein the metallic layer is made of aluminum, gold, palladium platinum or a metal alloy, or carbon, or a semi-conductive compound.

54. (New). The thin-film assembly according to claim 9 wherein the conductive suspension or solution is based on polyaniline, polyethylene dioxithiophene/polystyrenesulfonic acid.

55. (New) The thin-film assembly according to claim 12 wherein the top electrode and, optionally, also the contact layer provided therebelow are designed to be transparent.

56. (New) The thin-film assembly according to claim 28 wherein said encapsulation a thin glass laminate or a polymer-oxide composite layer system.